Appendix A

Analysis of Scoping Comments

Pocket Gopher Control Projects (Lochsa-Powell, North Fork, and Palouse RDs)

One response specific to the project wasreceived during the scoping period of March 27, 2017 to April 24, 2017. The response was analyzed and an analysis code assigned to the comments (see Table below).

Comment Analysis Codes

1: Outside the scope of the proposed action.
2: Already decided by law, regulation, Forest Plan, or other higher level of decision.
3: Irrelevant to the decision to be made.
4: Conjectural and not supported by scientific evidence.
5: General comment, suggestion, opinion, or position statement.
6: Other agency or partner's consultation, review, advice, recommendation(s), etc.
7: Already considered in the proposed action or is standard procedure.
8: Will be included in an analysis of effectsto the environment.

Codes 1 – 6 are standard codes. Comments assigned to these codes are considered to be non-significant issues. Code 7 was added as a category for those suggestions that are already proposed or for procedures that are routinely done. Code 8 was added as a category for suggestions that will be analyzed for effects to the environment.

Table: Comment Analysis

Commenter	Comment	Disposition
Friends of the Clearwater, Gary Macfarlane	After decades of dispersing poisoned oats, there are apparently still serious seedling mortalityproblems. Maybe this tactic is not the most effectiveat controlling pocket gopher damage, and theagency should explore other avenues.	Experience and research have shown that below ground hand baiting is the most effective means of controlling pocket gopher populations in the forest environment.Likewise, theproject objective is to suppressgopher populations in theharvest units while seedlings get established (the most serious damage occurs during the first three years after planting). Pocket gopher populations in the treated unitswould recover, via emigration from adjacent non-treated areas,once baiting was discontinued.

	...After dying of strychnine poisoning, the poisoned gophers then enter the food chain.A multitude of forest scavengers, including a variety of T, E&S species, have the potential to eat this poison-laced carrion, thus increasing the chances of spreadingthrough the food chain.	See Response below.
	Some sites appear to nearly overlap with thinning proposed in this comment letter. • Compare Lochsa Map 2 pocket gopher control to Lochsa Maps 6 and 7 for commercial thinning. • Even more dramatic is Map 1 for Palouse RD thinning has a large unit in section 15 and that unit is the same as the gopher poisoning unit for Palouse Map 1.	The Lochsa-Powell gopher control and thinning unitsreferred to, though in the same vicinity, do not overlap. The pocket gopher control and thinningunits in section 15 on the Palouse RD overlap because both treatments would be implemented in the unit. Small patches of natural regeneration are present in various locations in the unit. These patches are densely stocked and the project would thin out the less desirable species to release the desirable species. The majority of the unit would be planted including around and into the edges of the thinned patches. Baiting would be done to suppresspocket gopher populations in theunit while seedlings get established.

Forest Service Response

Strychnine does not assimilate into tissues or bone. Studies have found that sublethal doses of strychnine are rapidly detoxified and excreted (Savarie 1991). Undigested strychnine, however, frequently remains in the gastrointestinal tracts (and in the cheek pouches) of poisoned animals (Nolte and Wagner 2001, Hegdal &Gatz 1976).The residue in carcassesfound above ground (primarily non-target species such as mice, chipmunks, and ground squirrels)can pose a hazard to predators and scavengers (El Hani et al 2002, Hegdal and Gatz 1976).The availability of non-target carcasses to scavenger varies, depending on site conditions, non-target species populations, exposure time, etc. (Nolte and Wagner 2001).

Secondary poisoning of scavengers was not observed during various pocket gopher strychnine baiting studies that included monitoringof raptors and mammalian predators/scavengers. For example, Hegdal and Gatz (1976) assessed the hazards associated with strychnine baiting for pocket gophers (*Geomys bursarius*) by outfitting 36 raptors [red-tailed hawks (*Buteo jamaicensis*), American kestrels (*Falco sparverius*), and great horned owls (*Bubo virginianus*)]and 36 mammalian predators/scavengers[badgers (*Taxidea taxus*), striped skunks (Mephitis mephitis), red fox (*Vulpes fulva*) and coyote (*Canis latrans*)] with radio transmitters. Of the 72 individuals radio tagged, 11 raptors and 9 mammals were intensively radio-tracked during and for three weeks after treatment.All of the individuals that utilized the treated areassurvived. The authors state, “Based on our observations and the results of this study we concluded

that the control ofpocket gophers with strychnine bait, properly applied with the burrow-builder, is a relativelysafe procedure with few hazards to non-rodent wildlife."

In addition, studies have shown that the extent of secondary strychnine exposureto scavengers is reduced because of therapid disappearance of carcasses, largely due to carrion-eating insects (e.g., flies,wasps, beetles, ants etc.) (Arjo et al 2005, Sullivan 1988).Because of the insects' ability to quickly locate and consume the carcass, the first three days of exposure (minimum one day and maximum of eight days) present the greatest risk to scavengers (Sullivan 1988).Nolte and Wagner (2001) reported carcasses were virtually eliminated within 48hours in their study area.Weather was also a contributing factor in time of carcass exposure, with hot, sunny days resulting in more rapid decomposition of the carcass (Sullivan 1988). Note that Nolte and Wagner (2001) speculate that "it is unlikely an individual Insect will contain a sufficient quantity of strychnine to constitute a viable threat. ...a bird would need to take a substantial number of contaminated insects within a relatively short time-frame to ingest a lethal dose. This situation seems unlikely, unless a bird ate insects while they were foraging on the gastrointestinal tract of a poisoned carcass."

Arjo, W., K. Wagner, D. Nolte, R. Stahl, and J. Johnston (2005). Potential non-target risks from strychnine-containing rodent carcasses. Crop Protection 25 (2006) 182–187.

Hegdal, P. and Gatz,T.(1976). Hazards to wildlife associated with undergroundstrychnine baiting for pocket gophers. Proceedings of VertebratePestConference 7: 258-266.

Nolte, D. and Wagner, K. Non-Target Impacts of Strychnine Baiting to Reduce Pocket Gopher Populations on Forest Lands in the United States. *USDA National Wildlife Research Center - Staff Publications.* Paper 607.

Savarie, P. (1991). The nature, modes of action, and toxicity of rodenticides.*In CRC Handbook of Pest Management in Agriculture* (ed. DPimentei),pp 589-598. CRC Press, New York.

Sullivan, D.(1988). Determination of the environmental fate of ground squirrel carcasses. *In*: Crabb, A.C., Marsh, R.E. (Eds.), Proceedings of the 13th Vertebrate Pest Conference, vol. 13, pp. 169–173.